OIPE
JUN 2 8 2004
3042
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SEQUENCE LISTING

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PHAM, NAM

<120> RAS ACTIVATOR NUCLEIC ACID MOLECULES, POLYPEPTIDES AND METHODS OF USE

<130> DWW-5001-US

<140> 09/911,826
<141> 2001-07-20

<150> PCT/CA00/00042
<151> 2000-01-20

<150> CA 2,259,830
<151> 1999-01-20

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Ser Leu Gln Thr Leu Ser Leu Gln Cys  Glu Pro Ala Thr Asn  Thr Leu
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Pro Lys Asn  Pro Gly Asp Lys Lys  Pro Val Lys Ser Glu  Thr Ser
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Pro Val Ala  Pro Arg Ala Gly Ser  Gln Gln Lys Ala Gln  Ser Leu
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Ala Leu Lys  Lys Ile Leu Ser Leu  Ser Glu Glu Gly Ser  Leu Glu
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Gln Leu Ser  Ser Pro Pro Thr Ser  Pro Gln Ser Ser Pro  Arg Lys
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Gly Ser Tyr  Ala Pro Met Ser Glu  Gly Arg Gly Leu Tyr  Ala Thr
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Ala Thr Val  Ile Ser Ser Pro Ser  Thr Glu Glu Leu Ser  Gln Asp
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His Phe Asp  Tyr Ser Gly Asp Pro  Ala Gly Leu Trp Ala  Ser Ser
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Ser His Met  Asp Gln Ile Met Phe  Ser Asp His Ser Thr  Lys Tyr
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Arg Ala Ser  Trp Ala Ser Ser Thr  Gly Tyr Trp Gly Glu  Asp Ser
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Glu Gly Asp  Thr Gly Thr Ile Lys  Arg Arg Gly Gly Lys  Asp Val
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Ser Ile Glu  Ala Glu Ser Ser Ser  Leu Thr Ser Val Thr  Thr Glu
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Glu Thr Lys  Pro Val Pro Met Pro  Ala His Ile Ala Val  Ala Ser
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Lys Thr Ser     Ala  Leu Glu Pro Trp Asn  Ser His Ser Glu Asp
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<222> (1)..(1499)
<223> translation fragment 1

<220>
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<222> (1500)..(1519)
<223> translation fragment 2

<220>
<221> MISC_FEATURE
<222> (1520)..(1537)
<223> translation fragment 3

<400> 2

```
Met Lys Pro Leu Ala Ile Pro Ala Asn His Gly Val Met Gly Gln Gln
  1               5                  10                  15

Glu Lys His Ser Leu Pro Ala Asp Phe Thr Lys Leu His Leu Thr Asp
             20                  25                  30

Ser Leu His Pro Gln Val Thr His Val Ser Ser Ser His Ser Gly Cys
         35                  40                  45

Ser Ile Thr Ser Asp Ser Gly Ser Ser Ser Leu Ser Asp Ile Tyr Gln
     50                  55                  60

Ala Thr Glu Ser Glu Ala Gly Asp Met Asp Leu Ser Gly Leu Pro Glu
 65                  70                  75                  80

Thr Ala Val Asp Ser Glu Asp Asp Asp Asp Glu Glu Asp Ile Glu Arg
                 85                  90                  95

Ala Ser Asp Pro Leu Met Ser Arg Asp Ile Val Arg Asp Cys Leu Glu
            100                 105                 110

Lys Asp Pro Ile Asp Arg Thr Asp Asp Asp Ile Glu Gln Leu Leu Glu
        115                 120                 125

Phe Met His Gln Leu Pro Ala Phe Ala Asn Met Thr Met Ser Val Arg
    130                 135                 140

Arg Glu Leu Cys Ala Val Met Val Phe Ala Val Val Glu Arg Ala Gly
145                 150                 155                 160

Thr Ile Val Leu Asn Asp Gly Glu Glu Leu Asp Ser Trp Ser Val Ile
                165                 170                 175

Leu Asn Gly Ser Val Glu Val Thr Tyr Pro Asp Gly Lys Ala Glu Ile
            180                 185                 190

Leu Cys Met Gly Asn Ser Phe Gly Val Ser Pro Thr Met Asp Lys Glu
        195                 200                 205

Tyr Met Lys Gly Val Met Arg Thr Lys Val Asp Asp Cys Gln Phe Val
    210                 215                 220

Cys Ile Ala Gln Gln Asp Tyr Cys Arg Ile Leu Asn Gln Val Glu Lys
225                 230                 235                 240
```

```
Asn Met Gln Lys Val Glu Glu Glu Gly Glu Ile Val Met Val Lys Glu
                245                 250                 255

His Arg Glu Leu Asp Arg Thr Gly Thr Arg Lys Gly His Ile Val Ile
            260                 265                 270

Lys Gly Thr Ser Glu Arg Leu Thr Met His Leu Val Glu Glu His Ser
        275                 280                 285

Val Val Asp Pro Thr Phe Ile Glu Asp Phe Leu Leu Thr Tyr Arg Thr
    290                 295                 300

Phe Leu Ser Ser Pro Met Glu Val Gly Lys Lys Leu Leu Glu Trp Phe
305                 310                 315                 320

Asn Asp Pro Ser Leu Arg Asp Lys Val Thr Arg Val Val Leu Leu Trp
                325                 330                 335

Val Asn Asn His Phe Asn Asp Phe Glu Gly Asp Pro Ala Met Thr Arg
            340                 345                 350

Phe Leu Glu Glu Phe Glu Asn Asn Leu Glu Arg Glu Lys Met Gly Gly
        355                 360                 365

His Leu Arg Leu Leu Asn Ile Ala Cys Ala Ala Lys Ala Lys Arg Arg
    370                 375                 380

Leu Met Thr Leu Thr Lys Pro Ser Arg Glu Ala Pro Leu Pro Phe Ile
385                 390                 395                 400

Leu Leu Gly Gly Ser Glu Lys Gly Phe Gly Ile Phe Val Asp Ser Val
                405                 410                 415

Asp Ser Gly Ser Lys Ala Thr Glu Ala Gly Leu Lys Arg Gly Asp Gln
            420                 425                 430

Ile Leu Glu Val Asn Gly Gln Asn Phe Glu Asn Ile Gln Leu Ser Lys
        435                 440                 445

Ala Met Glu Ile Leu Arg Asn Asn Thr His Leu Ser Ile Thr Val Lys
    450                 455                 460

Thr Asn Leu Phe Val Phe Lys Glu Leu Leu Thr Arg Leu Ser Glu Glu
465                 470                 475                 480

Lys Arg Asn Gly Ala Pro His Leu Pro Lys Ile Gly Asp Ile Lys Lys
                485                 490                 495

Ala Ser Arg Tyr Ser Ile Pro Asp Leu Ala Val Asp Val Glu Gln Val
            500                 505                 510

Ile Gly Leu Glu Lys Val Asn Lys Lys Ser Lys Ala Asn Thr Val Gly
        515                 520                 525

Gly Arg Asn Lys Leu Lys Lys Ile Leu Asp Lys Thr Arg Ile Ser Ile
    530                 535                 540
```

```
Leu Pro Gln Lys Pro Tyr Asn Asp Ile Gly Ile Gly Gln Ser Gln Asp
545                 550                 555                 560

Asp Ser Ile Val Gly Leu Arg Gln Thr Lys His Ile Pro Thr Ala Leu
                565                 570                 575

Pro Val Ser Gly Thr Leu Ser Ser Ser Asn Pro Asp Leu Leu Gln Ser
            580                 585                 590

His His Arg Ile Leu Asp Phe Ser Ala Thr Pro Asp Leu Pro Asp Gln
        595                 600                 605

Val Leu Arg Val Phe Lys Ala Asp Gln Gln Ser Arg Tyr Ile Met Ile
    610                 615                 620

Ser Lys Asp Thr Thr Ala Lys Glu Val Val Ile Gln Ala Ile Arg Glu
625                 630                 635                 640

Phe Ala Val Thr Ala Thr Pro Asp Gln Tyr Ser Leu Cys Glu Val Ser
                645                 650                 655

Val Thr Pro Glu Gly Val Ile Lys Gln Arg Arg Leu Pro Asp Gln Leu
            660                 665                 670

Ser Lys Leu Ala Asp Arg Ile Gln Leu Ser Gly Arg Tyr Tyr Leu Lys
        675                 680                 685

Asn Asn Met Glu Thr Glu Thr Leu Cys Ser Asp Glu Asp Ala Gln Glu
    690                 695                 700

Leu Leu Arg Glu Ser Gln Ile Ser Leu Leu Gln Leu Ser Thr Val Glu
705                 710                 715                 720

Val Ala Thr Gln Leu Ser Met Arg Asn Phe Glu Leu Phe Arg Asn Ile
                725                 730                 735

Glu Pro Thr Glu Tyr Ile Asp Asp Leu Phe Lys Leu Arg Ser Lys Thr
            740                 745                 750

Ser Cys Ala Asn Leu Lys Arg Phe Glu Glu Val Ile Asn Gln Glu Thr
        755                 760                 765

Phe Trp Val Ala Ser Glu Ile Leu Arg Glu Thr Asn Gln Leu Lys Arg
    770                 775                 780

Met Lys Ile Ile Lys His Phe Ile Lys Ile Ala Leu His Cys Arg Glu
785                 790                 795                 800

Cys Lys Asn Phe Asn Ser Met Phe Ala Ile Ile Ser Gly Leu Asn Leu
                805                 810                 815

Ala Pro Val Ala Arg Leu Arg Thr Thr Trp Glu Lys Leu Pro Asn Lys
            820                 825                 830

Tyr Glu Lys Leu Phe Gln Asp Leu Gln Asp Leu Phe Asp Pro Ser Arg
        835                 840                 845
```

```
Asn Met Ala Lys Tyr Arg Asn Val Leu Asn Ser Gln Asn Leu Gln Pro
    850                 855                 860

Pro Ile Ile Pro Leu Phe Pro Val Ile Lys Lys Asp Leu Thr Phe Leu
865                 870                 875                 880

His Glu Gly Asn Asp Ser Lys Val Asp Gly Leu Val Asn Phe Glu Lys
                885                 890                 895

Leu Arg Met Ile Ala Lys Glu Ile Arg His Val Gly Arg Met Ala Ser
            900                 905                 910

Val Asn Met Asp Pro Ala Leu Met Phe Arg Thr Arg Lys Lys Lys Trp
        915                 920                 925

Arg Ser Leu Gly Ser Leu Ser Gln Gly Ser Thr Asn Ala Thr Val Leu
    930                 935                 940

Asp Val Ala Gln Thr Gly Gly His Lys Lys Arg Val Arg Arg Ser Ser
945                 950                 955                 960

Phe Leu Asn Ala Lys Lys Leu Tyr Glu Asp Ala Gln Met Ala Arg Lys
                965                 970                 975

Val Lys Gln Tyr Leu Ser Asn Leu Glu Leu Glu Met Asp Glu Glu Ser
            980                 985                 990

Leu Gln Thr Leu Ser Leu Gln Cys Glu Pro Ala Thr Asn Thr Leu Pro
        995                1000                1005

Lys Asn Pro Gly Asp Lys Lys Pro Val Lys Ser Glu Thr Ser Pro Val
   1010                1015                1020

Ala Pro Arg Ala Gly Ser Gln Gln Lys Ala Gln Ser Leu Pro Gln Pro
1025                1030                1035                1040

Gln Gln Gln Pro Pro Pro Ala His Lys Ile Asn Gln Gly Leu Gln Val
               1045                1050                1055

Pro Ala Val Ser Leu Tyr Pro Ser Arg Lys Lys Val Pro Val Lys Asp
           1060                1065                1070

Leu Pro Pro Phe Gly Ile Asn Ser Pro Gln Ala Leu Lys Lys Ile Leu
       1075                1080                1085

Ser Leu Ser Glu Glu Gly Ser Leu Glu Arg His Lys Lys Gln Ala Glu
   1090                1095                1100

Asp Thr Ile Ser Asn Ala Ser Ser Gln Leu Ser Ser Pro Pro Thr Ser
1105                1110                1115                1120

Pro Gln Ser Ser Pro Arg Lys Gly Tyr Thr Leu Ala Pro Ser Gly Thr
               1125                1130                1135

Val Asp Asn Phe Ser Asp Ser Gly His Ser Glu Ile Ser Ser Arg Ser
           1140                1145                1150
```

```
Ser Ile Val Ser Asn Ser Ser Phe Asp Ser Val Pro Val Ser Leu His
      1155                1160                1165

Asp Glu Arg Arg Gln Arg His Ser Val Ser Ile Val Glu Thr Asn Leu
   1170                1175                1180

Gly Met Gly Arg Met Glu Arg Arg Thr Met Ile Glu Pro Asp Gln Tyr
1185                1190                1195                1200

Ser Leu Gly Ser Tyr Ala Pro Met Ser Glu Gly Arg Gly Leu Tyr Ala
               1205                1210                1215

Thr Ala Thr Val Ile Ser Ser Pro Ser Thr Glu Glu Leu Ser Gln Asp
           1220                1225                1230

Gln Gly Asp Arg Ala Ser Leu Asp Ala Ala Asp Ser Gly Arg Gly Ser
      1235                1240                1245

Trp Thr Ser Cys Ser Ser Gly Ser His Asp Asn Ile Gln Thr Ile Gln
   1250                1255                1260

His Gln Arg Ser Trp Glu Thr Leu Pro Phe Gly His Thr His Phe Asp
1265                1270                1275                1280

Tyr Ser Gly Asp Pro Ala Gly Leu Trp Ala Ser Ser Ser His Met Asp
               1285                1290                1295

Gln Ile Met Phe Ser Asp His Ser Thr Lys Tyr Asn Arg Gln Asn Gln
           1300                1305                1310

Ser Arg Glu Ser Leu Glu Gln Ala Gln Ser Arg Ala Ser Trp Ala Ser
      1315                1320                1325

Ser Thr Gly Tyr Trp Gly Glu Asp Ser Glu Gly Asp Thr Gly Thr Ile
   1330                1335                1340

Lys Arg Arg Gly Gly Lys Asp Val Ser Ile Glu Ala Glu Ser Ser Ser
1345                1350                1355                1360

Leu Thr Ser Val Thr Thr Glu Glu Thr Lys Pro Val Pro Met Pro Ala
               1365                1370                1375

His Ile Ala Val Ala Ser Ser Thr Thr Lys Gly Leu Ile Ala Arg Lys
           1380                1385                1390

Glu Gly Arg Tyr Arg Glu Pro Pro Pro Thr Pro Pro Gly Tyr Ile Gly
      1395                1400                1405

Ile Pro Ile Thr Asp Phe Pro Glu Gly His Ser His Pro Ala Arg Lys
   1410                1415                1420

Pro Pro Asp Tyr Asn Val Ala Leu Gln Arg Ser Arg Met Val Ala Arg
1425                1430                1435                1440

Ser Ser Asp Thr Ala Gly Pro Ser Ser Val Gln Gln Pro His Gly His
               1445                1450                1455
```

```
Pro Thr Ser Ser Arg Pro Val Asn Lys Pro Gln Trp His Lys Pro Asn
          1460                1465                1470

Glu Ser Asp Pro Arg Leu Ala Pro Tyr Gln Ser Gln Gly Phe Ser Thr
       1475                1480                1485

Glu Glu Asp Glu Asp Glu Gln Val Ser Ala Val Gly Thr Asp Phe Ser
   1490                1495                1500

Gly Ser Arg Ala Ser His Leu Lys Gly Glu His Lys Lys Thr Ser Ala
1505                1510                1515                1520

Leu Glu Pro Trp Asn Ser His Ser Glu Asp Gly Gly Pro Val Cys Leu
              1525                1530                1535

Leu
```

<210> 3
<211> 801
<212> DNA
<213> Mus musculus

<400> 3

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actaaaggga acaaaagctg gagctccacc gcggtggcgg ccgctctaga actagtggat     60
cccccgggct gcaggaattc aagcggtggg aaggatgtct ccgctgaggc agagagcagc    120
agcatggtgc ccgtgactac agaggaagcc aaacctgtcc ctatgcctgc ccacatagct    180
gtgacgccga gcactaccaa gggactcatc gcacggaagg aaggcaggta ccgggagccg    240
cctcccacac ctccaggcta cgtgggcatc cccattgccg atttcccaga agggccttgc    300
cacccggcca ggaagccccc ggattacaac gtggccctgc agcggtcccg catggtggca    360
cggcccactg aggccccggc accgggccag acgccgcctg cagccgcagc cagccggccg    420
ggcagcaagc cacagtggca caagcccagc gacgcagacc cacgcctcgc gcccttccag    480
ccgcaggctt cgcaggagcg gaggaggacg aagatgaaca agtgtctgct gtttgaggcg    540
caggctcctt gatccacagt gagccaccca aaggagagca caagaagacg tcccaagcct    600
tggagccttg gcacgcacat ctgaggatgg tggaccagtt tgcctccttc cctgccttaa    660
agcagcatgg ggcttcttct ccccttcttc ctttcccctt tgcatgtgaa atactgtgaa    720
gaaattgccc tggcactttg cagacttgtt gcttgaaatg cacagcccag cagcccctga    780
gctgctgcct gccacgtcac g                                              801
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<210> 4
<211> 281
<212> PRT
<213> Homo sapiens

<220>
<221> MISC_FEATURE
<222> (1)..(202)
<223> fragment 1 of reading frame 1

<220>
<221> MISC_FEATURE
<222> (203)..(225)
<223> fragment 2 of reading frame 1

<220>

<221> MISC_FEATURE
<222> (226)..(236)
<223> fragment 3 of reading frame 1

<220>
<221> MISC_FEATURE
<222> (237)..(267)
<223> fragment 4 of reading frame 1

<220>
<221> MISC_FEATURE
<222> (268)..(274)
<223> fragment 5 of reading frame 1

<220>
<221> MISC_FEATURE
<222> (275)..(281)
<223> fragment 6 of reading frame 1

<400> 4

```
Thr Lys Gly Asn Lys Ser Trp Ser Ser Thr Ala Val Ala Ala Ala Leu
1               5                  10                  15

Glu Leu Val Asp Pro Pro Gly Cys Arg Asn Ser Ser Gly Gly Lys Asp
            20                  25                  30

Val Ser Ala Glu Ala Glu Ser Ser Ser Met Val Pro Val Thr Thr Glu
        35                  40                  45

Glu Ala Lys Pro Val Pro Met Pro Ala His Ile Ala Val Thr Pro Ser
    50                  55                  60

Thr Thr Lys Gly Leu Ile Ala Arg Lys Glu Gly Arg Tyr Arg Glu Pro
65                  70                  75                  80

Pro Pro Thr Pro Pro Gly Tyr Val Gly Ile Pro Ile Ala Asp Phe Pro
                85                  90                  95

Glu Gly Pro Cys His Pro Ala Arg Lys Pro Pro Asp Tyr Asn Val Ala
            100                 105                 110

Leu Gln Arg Ser Arg Met Val Ala Arg Pro Thr Glu Ala Pro Ala Pro
        115                 120                 125

Gly Gln Thr Pro Pro Ala Ala Ala Ala Ser Arg Pro Gly Ser Lys Pro
    130                 135                 140

Gln Trp His Lys Pro Ser Asp Ala Asp Pro Arg Leu Ala Pro Phe Gln
```

```
145                 150                 155                 160

Ala Ala Ser His Ser Gly Thr Ser Pro Ala Thr Gln Thr His Ala Ser
                165                 170                 175

Arg Pro Ser Arg Gln Ala Ser Gln Glu Arg Arg Arg Thr Lys Met Asn
            180                 185                 190

Lys Cys Leu Leu Phe Glu Ala Gln Ala Pro Ser Thr Val Ser His Pro
        195                 200                 205

Lys Glu Ser Thr Arg Arg Arg Pro Lys Pro Trp Ser Leu Gly Thr His
    210                 215                 220

Ile Gly Trp Trp Thr Ser Leu Pro Pro Ser Leu Pro Ser Ser Met Gly
225                 230                 235                 240

Leu Leu Leu Pro Phe Phe Leu Ser Pro Leu His Val Lys Tyr Cys Glu
                245                 250                 255

Glu Ile Ala Leu Ala Leu Cys Arg Leu Val Ala Asn Ala Gln Pro Ser
            260                 265                 270

Ser Pro Ala Ala Ala Cys His Val Thr
        275                 280
```

<210> 5
<211> 237
<212> PRT
<213> Homo sapiens

<220>
<221> MISC_FEATURE
<222> (1)..(15)
<223> fragment 1 of reading frame 2

<220>
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<222> (16)..(16)
<223> fragment 2 of reading frame 2

<220>
<221> MISC_FEATURE
<222> (17)..(42)
<223> fragment 3 of reading frame 2

<220>
<221> MISC_FEATURE

<222> (43)..(55)
<223> fragment 4 of reading frame 2

<220>
<221> MISC_FEATURE
<222> (56)..(56)
<223> fragment 5 of reading frame 2

<220>
<221> MISC_FEATURE
<222> (57)..(145)
<223> fragment 6 of reading frame 2

<220>
<221> MISC_FEATURE
<222> (146)..(159)
<223> fragment 7 of reading frame 2

<220>
<221> MISC_FEATURE
<222> (160)..(207)
<223> fragment 8 of reading frame 2

<220>
<221> MISC_FEATURE
<222> (208)..(237)
<223> fragment 9 of reading frame 2

<400> 5

```
Leu Lys Gly Thr Lys Ala Gly Ala Pro Pro Arg Trp Arg Pro Leu Asn
1               5                   10                  15

Trp Ile Pro Arg Ala Ala Gly Ile Gln Ala Val Gly Arg Met Ser Pro
            20                  25                  30

Leu Arg Gln Arg Ala Ala Ala Trp Cys Pro Leu Gln Arg Lys Pro Asn
        35                  40                  45

Leu Ser Leu Cys Leu Pro Thr Leu Arg Arg Ala Leu Pro Arg Asp Ser
    50                  55                  60

Ser His Gly Arg Lys Ala Gly Thr Gly Ser Arg Leu Pro His Leu Gln
65                  70                  75                  80

Ala Thr Trp Ala Ser Pro Leu Pro Ile Ser Gln Lys Gly Leu Ala Thr
                85                  90                  95

Arg Pro Gly Ser Pro Arg Ile Thr Thr Trp Pro Cys Ser Gly Pro Ala
            100                 105                 110
```

```
Trp Trp His Gly Pro Leu Arg Pro Arg His Arg Ala Arg Arg Arg Leu
        115                 120                 125

Gln Pro Gln Pro Ala Gly Arg Arg Leu Arg Arg Ser Gly Gly Gly Arg
    130                 135                 140

Arg Thr Ser Val Cys Cys Leu Arg Arg Arg Leu Leu Asp Pro Gln Ala
145                 150                 155                 160

Thr Gln Arg Arg Ala Gln Glu Asp Val Pro Ser Leu Gly Ala Leu Ala
                165                 170                 175

Arg Thr Ser Glu Asp Gly Gly Pro Val Cys Leu Leu Pro Cys Leu Lys
            180                 185                 190

Ala Ala Trp Gly Phe Phe Ser Pro Ser Ser Phe Pro Leu Cys Met Asn
        195                 200                 205

Thr Val Lys Lys Leu Pro Trp His Phe Ala Asp Leu Leu Leu Glu Met
    210                 215                 220

His Ser Pro Ala Ala Pro Glu Leu Leu Pro Ala Thr Ser
225                 230                 235
```

<210> 6
<211> 261
<212> PRT
<213> Homo sapiens

<220>
<221> MISC_FEATURE
<222> (1)..(33)
<223> fragment 1 of reading frame 3

<220>
<221> MISC_FEATURE
<222> (34)..(120)
<223> fragment 2 of reading frame 3

<220>
<221> MISC_FEATURE
<222> (121)..(174)
<223> fragment 3 of reading frame 3

<220>
<221> MISC_FEATURE
<222> (175)..(234)
<223> fragment 4 of reading frame 3

<220>
<221> MISC_FEATURE
<222> (235)..(261)
<223> fragment 5 of reading frame 3

<400> 6

```
Arg Glu Gln Lys Leu Glu Leu His Arg Gly Gly Gly Arg Ser Arg Thr
1               5                   10                  15

Ser Gly Ser Pro Gly Leu Gln Glu Phe Lys Arg Trp Glu Gly Cys Leu
            20                  25                  30

Arg Gly Arg Glu Gln Gln His Gly Ala Arg Asp Tyr Arg Gly Ser Gln
        35                  40                  45

Thr Cys Pro Tyr Ala Cys Pro His Ser Cys Asp Ala Glu His Tyr Gln
    50                  55                  60

Gly Thr His Arg Thr Glu Gly Arg Gln Val Pro Gly Ala Ala Ser His
65                  70                  75                  80

Thr Ser Arg Leu Arg Gly His Pro His Cys Arg Phe Pro Arg Arg Ala
                85                  90                  95

Leu Pro Pro Gly Gln Glu Ala Pro Gly Leu Gln Arg Gly Pro Ala Ala
            100                 105                 110

Val Pro His Gly Gly Thr Ala His Gly Pro Gly Thr Gly Pro Asp Ala
        115                 120                 125

Ala Cys Ser Arg Ser Gln Pro Ala Gly Gln Gln Ala Thr Val Ala Gln
    130                 135                 140

Ala Gln Arg Arg Arg Pro Thr Pro Arg Ala Leu Pro Gly Ala Gly Phe
145                 150                 155                 160

Ala Gly Ala Glu Glu Asp Glu Asp Glu Gln Val Ser Ala Val Gly Ala
                165                 170                 175

Gly Ser Leu Ile His Ser Glu Pro Pro Lys Gly Glu His Lys Lys Thr
            180                 185                 190

Ser Gln Ala Leu Glu Pro Trp His Ala His Leu Arg Met Val Asp Gln
        195                 200                 205
```

```
Phe Ala Ser Phe Pro Ala Leu Lys Gln His Gly Ala Ser Ser Pro Leu
    210                 215                 220

Leu Pro Phe Pro Phe Ala Cys Glu Ile Leu Arg Asn Cys Pro Gly Thr
225                 230                 235                 240

Leu Gln Thr Cys Cys Leu Lys Cys Thr Ala Gln Gln Pro Leu Ser Cys
                245                 250                 255

Cys Leu Pro Arg His
            260
```

<210> 7
<211> 307
<212> PRT
<213> Drosophila melanogaster

<400> 7

```
Ser Asn Val His Phe Leu His Leu Asn Ala Tyr Glu Leu Ala Ile Gln
  1               5                  10                  15

Leu Thr Leu Gln Asp Phe Ala Asn Phe Arg Gln Ile Glu Ser Thr Glu
             20                  25                  30

Tyr Val Asp Glu Leu Phe Glu Leu Arg Ser Arg Tyr Gly Val Pro Met
         35                  40                  45

Leu Ser Lys Phe Ala Glu Leu Val Asn Arg Glu Met Phe Trp Val Val
     50                  55                  60

Ser Glu Ile Cys Ala Glu His Asn Ile Val Arg Arg Met Lys Ile Val
 65                  70                  75                  80

Lys Gln Phe Ile Lys Ile Ala Arg His Cys Lys Glu Cys Arg Asn Phe
                85                  90                  95

Asn Ser Met Phe Ala Ile Val Ser Gly Leu Gly His Gly Ala Val Ser
            100                 105                 110

Arg Leu Arg Gln Thr Trp Glu Lys Leu Pro Ser Lys Tyr Gln Arg Leu
        115                 120                 125

Phe Asn Asp Leu Gln Asp Leu Met Asp Pro Ser Arg Asn Met Ser Lys
    130                 135                 140

Tyr Arg Gln Leu Val Ser Ala Glu Leu Leu Ala Gln His Pro Ile Ile
145                 150                 155                 160

Pro Phe Tyr Pro Ile Val Lys Lys Asp Leu Thr Phe Ile His Leu Gly
                165                 170                 175
```

```
Asn Asp Thr Arg Val Asp Gly Leu Val Asn Phe Glu Lys Leu Arg Met
            180                 185                 190

Leu Ala Lys Glu Val Arg Leu Leu Thr His Met Cys Ser Ser Pro Tyr
        195                 200                 205

Asp Leu Leu Ser Ile Leu Glu Leu Lys Gly Gln Ser Pro Ser Asn Ala
    210                 215                 220

Leu Phe Ser Leu Asn Gln Met Ser Ala Ser Gln Ser Asn Ala Ala Ala
225                 230                 235                 240

Gly Thr Val Ile Ala Ala Asn Ala Gly Gln Ala Thr Ile Lys Arg Arg
                245                 250                 255

Lys Lys Ser Thr Ala Ala Pro Asn Pro Lys Lys Met Phe Glu Glu Ala
            260                 265                 270

Gln Met Val Arg Arg Val Lys Ala Tyr Leu Asn Ser Leu Lys Ile Leu
        275                 280                 285

Ser Asp Glu Asp Leu Leu His Lys Phe Ser Leu Glu Cys Glu Pro Ala
    290                 295                 300

His Gly Ser
305
```

<210> 8
<211> 270
<212> PRT
<213> Homo sapiens

<400> 8

```
Ser Ala Glu Gly Leu Asp Leu Val Ser Ala Lys Asp Leu Ala Gly Gln
  1               5                  10                  15

Leu Thr Asp His Asp Trp Ser Leu Phe Asn Ser Ile His Gln Val Glu
             20                  25                  30

Leu Ile His Tyr Val Leu Gly Pro Gln His Leu Arg Asp Val Thr Thr
         35                  40                  45

Ala Asn Leu Glu Arg Phe Met Arg Arg Phe Asn Glu Leu Gln Tyr Trp
     50                  55                  60

Val Ala Thr Glu Leu Cys Leu Cys Pro Val Pro Gly Pro Arg Ala Gln
 65                  70                  75                  80

Leu Leu Arg Lys Phe Ile Lys Leu Ala Ala His Leu Lys Glu Gln Lys
                 85                  90                  95

Asn Leu Asn Ser Phe Phe Ala Val Met Phe Gly Leu Ser Asn Ser Ala
            100                 105                 110

Ile Ser Arg Leu Ala His Thr Trp Glu Arg Leu Pro His Lys Val Arg
```

```
        115                 120                 125

Lys Leu Tyr Ser Ala Leu Glu Arg Leu Leu Asp Pro Ser Trp Asn His
    130                 135                 140

Arg Val Tyr Arg Leu Ala Leu Ala Lys Leu Ser Pro Pro Val Ile Pro
145                 150                 155                 160

Phe Met Pro Leu Leu Leu Lys Asp Met Thr Phe Ile His Glu Gly Asn
                165                 170                 175

His Thr Leu Val Glu Asn Leu Ile Asn Phe Glu Lys Met Arg Met Met
            180                 185                 190

Ala Arg Ala Ala Arg Met Leu His His Cys Arg Ser His Asn Pro Val
        195                 200                 205

Pro Leu Ser Pro Leu Arg Ser Arg Val Ser His Leu His Glu Asp Ser
    210                 215                 220

Gln Val Ala Arg Ile Ser Thr Cys Ser Glu Gln Ser Leu Ser Thr Arg
225                 230                 235                 240

Ser Pro Ala Ser Thr Trp Ala Tyr Val Gln Gln Leu Lys Val Ile Asp
                245                 250                 255

Asn Gln Arg Glu Leu Ser Arg Leu Ser Arg Glu Leu Glu Pro
            260                 265                 270


<210> 9
<211> 244
<212> PRT
<213> Mus musculus

<400> 9
Lys Ala Glu Cys Phe Glu Thr Leu Ser Ala Met Glu Leu Ala Glu Gln
  1               5                  10                  15

Ile Thr Leu Leu Asp His Ile Val Phe Arg Ser Ile Pro Tyr Glu Glu
             20                  25                  30

Phe Leu Gly Gln Gly Trp Met Lys Leu Asp Lys Asn Glu Arg Thr Pro
         35                  40                  45

Tyr Ile Met Lys Thr Ser Gln His Phe Asn Glu Met Ser Asn Leu Val
     50                  55                  60

Ala Ser Gln Ile Met Asn Tyr Ala Asp Ile Ser Ser Arg Pro Asn Ala
 65                  70                  75                  80

Ile Glu Lys Trp Val Ala Val Ala Asp Ile Cys Arg Cys Leu His Asn
                85                  90                  95

Tyr Asn Gly Val Leu Glu Ile Thr Ser Ala Leu Asn Arg Ser Pro Ile
            100                 105                 110
```

```
Tyr Arg Leu Lys Lys Thr Trp Ala Lys Val Ser Lys Gln Thr Lys Ala
        115                 120                 125

Leu Met Asp Lys Leu Gln Lys Thr Val Ser Ser Glu Gly Arg Phe Lys
    130                 135                 140

Asn Leu Arg Glu Thr Leu Lys Asn Cys Asn Pro Pro Ala Val Pro Tyr
145                 150                 155                 160

Leu Gly Met Tyr Leu Thr Asp Leu Ala Phe Ile Glu Glu Gly Thr Pro
                165                 170                 175

Asn Phe Thr Glu Glu Gly Leu Val Asn Phe Ser Lys Met Arg Met Ile
            180                 185                 190

Ser His Ile Ile Arg Glu Ile Arg Gln Phe Gln Gln Thr Ala Tyr Arg
        195                 200                 205

Ile Asp Gln Gln Pro Lys Val Ile Gln Tyr Leu Leu Asp Lys Ala Leu
    210                 215                 220

Val Ile Asp Glu Asp Ser Leu Tyr Glu Leu Ser Leu Lys Ile Glu Pro
225                 230                 235                 240

Arg Leu Pro Ala
```

<210> 10
<211> 249
<212> PRT
<213> Drosophila melanogaster

<400> 10

```
Asp Glu Ile Thr Leu Leu Thr Leu His Pro Leu Glu Leu Ala Arg Gln
  1               5                  10                  15

Leu Thr Leu Leu Glu Phe Glu Met Tyr Lys Asn Val Lys Pro Ser Glu
             20                  25                  30

Leu Val Gly Ser Pro Trp Thr Lys Lys Asp Lys Glu Val Lys Ser Pro
         35                  40                  45

Asn Leu Leu Lys Ile Met Lys His Thr Thr Asn Val Thr Arg Trp Ile
     50                  55                  60

Glu Lys Ser Ile Thr Glu Ala Glu Asn Tyr Glu Glu Arg Leu Ala Ile
 65                  70                  75                  80

Met Gln Arg Ala Ile Glu Val Met Met Val Met Leu Glu Leu Asn Asn
                 85                  90                  95

Phe Asn Gly Ile Leu Ser Ile Val Ala Ala Met Gly Thr Ala Ser Val
            100                 105                 110

Tyr Arg Leu Arg Trp Thr Phe Gln Gly Leu Pro Glu Arg Tyr Arg Lys
        115                 120                 125
```

```
Phe Leu Glu Glu Cys Arg Glu Leu Ser Asp Asp His Leu Lys Lys Tyr
    130                 135                 140

Gln Glu Arg Leu Arg Ser Ile Asn Pro Pro Cys Val Pro Phe Phe Gly
145                 150                 155                 160

Arg Tyr Leu Thr Asn Ile Leu His Leu Glu Glu Gly Asn Pro Asp Leu
                165                 170                 175

Leu Ala Asn Thr Glu Leu Ile Asn Phe Ser Lys Arg Arg Lys Val Ala
            180                 185                 190

Glu Ile Ile Gly Glu Ile Gln Gln Tyr Gln Asn Gln Pro Tyr Cys Leu
        195                 200                 205

Asn Glu Glu Ser Thr Ile Arg Gln Phe Phe Glu Gln Leu Asp Pro Phe
    210                 215                 220

Asn Gly Leu Ser Asp Lys Gln Met Ser Asp Tyr Leu Tyr Asn Glu Ser
225                 230                 235                 240

Leu Arg Ile Glu Pro Arg Gly Cys Lys
                245
```

<210> 11
<211> 243
<212> PRT
<213> Homo sapiens

<400> 11

```
Val Ser Leu Leu Phe Asp His Leu Glu Pro Glu Glu Leu Ser Glu His
  1               5                  10                  15

Leu Thr Tyr Leu Glu Phe Lys Ser Phe Arg Arg Ile Ser Phe Ser Asp
             20                  25                  30

Tyr Gln Asn Tyr Leu Val Asn Ser Cys Val Lys Glu Asn Pro Thr Met
         35                  40                  45

Glu Arg Ser Ile Ala Leu Cys Asn Gly Ile Ser Gln Trp Val Gln Leu
     50                  55                  60

Met Val Leu Ser Arg Pro Thr Pro Gln Leu Arg Ala Glu Val Phe Ile
 65                  70                  75                  80

Lys Phe Ile Gln Val Ala Gln Lys Leu His Gln Leu Gln Asn Phe Asn
                 85                  90                  95

Thr Leu Met Ala Val Ile Gly Gly Leu Cys His Ser Ser Ile Ser Arg
            100                 105                 110

Leu Lys Glu Thr Ser Ser His Val Pro His Glu Ile Asn Lys Val Leu
        115                 120                 125

Gly Glu Met Thr Glu Leu Leu Ser Ser Ser Arg Asn Tyr Asp Asn Tyr
```

```
    130                 135                 140

Arg Arg Ala Tyr Gly Glu Cys Thr Asp Phe Lys Ile Pro Ile Leu Gly
145                 150                 155                 160

Val His Leu Lys Asp Leu Ile Ser Leu Tyr Glu Ala Met Pro Asp Tyr
                165                 170                 175

Leu Glu Asp Gly Lys Val Asn Val His Lys Leu Leu Ala Leu Tyr Asn
            180                 185                 190

His Ile Ser Glu Leu Val Gln Leu Gln Glu Val Ala Pro Pro Leu Glu
        195                 200                 205

Ala Asn Lys Asp Leu Val His Leu Leu Thr Leu Ser Leu Asp Leu Tyr
    210                 215                 220

Tyr Thr Glu Asp Glu Ile Tyr Glu Leu Ser Tyr Ala Arg Glu Pro Arg
225                 230                 235                 240

Asn His Arg
```

<210> 12
<211> 48
<212> PRT
<213> Saccharomyces cerevisiae

```
<400> 12
Ile Arg Gly Gly Thr Lys Glu Ala Leu Ile Glu His Leu Thr Ser His
  1               5                  10                  15

Glu Leu Val Asp Ala Ala Phe Asn Val Thr Met Leu Ile Thr Phe Arg
             20                  25                  30

Ser Ile Leu Thr Thr Arg Glu Phe Phe Tyr Ala Leu Ile Tyr Arg Tyr
         35                  40                  45
```

<210> 13
<211> 47
<212> PRT
<213> Mus musculus

```
<400> 13
Ile Lys Gly Gly Thr Val Val Lys Leu Ile Glu Arg Leu Thr Tyr His
  1               5                  10                  15

Met Tyr Ala Asp Pro Asn Phe Val Arg Thr Phe Leu Thr Tyr Arg Ser
             20                  25                  30

Phe Cys Lys Gln Glu Leu Leu Asn Leu Leu Ile Glu Arg Phe Glu
         35                  40                  45
```

<210> 14
<211> 48
<212> PRT
<213> Mus musculus

<400> 14
Ile Arg Tyr Ala Ser Val Glu Ala Leu Leu Glu Arg Leu Thr Asp Leu
1 5 10 15

Arg Phe Leu Ser Ile Asp Phe Leu Asn Thr Phe Leu His Thr Tyr Arg
20 25 30

Ile Phe Thr Thr Ala Thr Val Val Leu Ala Lys Leu Ser Asp Ile Tyr
35 40 45

<210> 15
<211> 49
<212> PRT
<213> Dictyostelium discoideum

<400> 15
Val Val Lys Phe Ala Ser Leu Asn Lys Leu Val Glu His Leu Thr His
1 5 10 15

Asp Ser Lys His Asp Leu Gln Phe Leu Lys Thr Phe Leu Met Thr Tyr
20 25 30

Gln Ser Phe Cys Thr Pro Glu Lys Leu Met Ser Lys Leu Gln Gln Arg
35 40 45

Tyr

<210> 16
<211> 77
<212> PRT
<213> Drosophila melanogaster

<400> 16
Leu Thr Arg Ser Ser Arg Asp Glu Pro Leu Asn Phe Arg Ile Val Gly
1 5 10 15

Gly Tyr Glu Leu Arg Gly Val Ala Ile Ala Thr Gly Asn Ala Ala Val
20 25 30

Gly Ile Tyr Ile Ser His Val Glu Pro Gly Ser Lys Ala Gln Asp Val
35 40 45

Gly Leu Lys Arg Gly Asp Gln Ile His Glu Val Asn Gly Gln Ser Leu
50 55 60

Asp His Val Thr Ser Lys Arg Ala Leu Glu Ile Leu Thr
65 70 75

<210> 17
<211> 71
<212> PRT
<213> Homo sapiens

<400> 17
Asn Leu Lys Lys Asp Ala Lys Tyr Gly Leu Gly Phe Gln Ile Ile Gly
1 5 10 15

Gly Glu Lys Met Gly Arg Leu Asp Leu Gly Ile Phe Ile Ser Ser Val
20 25 30

Ala Pro Gly Gly Pro Ala Asp Leu Asp Gly Cys Leu Lys Pro Gly Asp
35 40 45

Arg Leu Ile Ser Val Asn Ser Val Ser Leu Glu Gly Val Ser His His
50 55 60

Ala Ala Ile Glu Ile Leu Gln
65 70

<210> 18
<211> 67
<212> PRT
<213> Homo sapiens

<400> 18
Ile Val Ile His Arg Gly Ser Thr Gly Leu Gly Phe Asn Ile Val Gly
1 5 10 15

Gly Glu Asp Gly Glu Gly Ile Phe Ile Ser Phe Ile Leu Ala Gly Gly
20 25 30

Pro Ala Asp Leu Ser Gly Glu Leu Arg Lys Gly Asp Gln Ile Leu Ser
35 40 45

Val Asn Gly Val Asp Leu Arg Asn Ala Ser His Glu Gln Ala Ala Ile
50 55 60

Ala Leu Lys
65

<210> 19
<211> 68
<212> PRT
<213> Rattus norvegicus

<400> 19
Val Glu Leu Pro Lys Thr Glu Glu Gly Leu Gly Phe Asn Ile Met Gly
1 5 10 15

Gly Lys Glu Gln Asn Ser Pro Ile Tyr Ile Ser Arg Ile Ile Pro Gly
20 25 30

Gly Ile Ala Asp Arg His Gly Gly Leu Lys Arg Gly Asp Gln Leu Leu

```
         35                  40                  45

Ser Val Asn Gly Val Ser Val Glu Gly Glu His His Glu Lys Ala Val
     50                  55                  60

Glu Leu Leu Lys
 65
```

<210> 20
<211> 65
<212> PRT
<213> Homo sapiens

<400> 20

```
Val Lys Val Gln Lys Gly Ser Glu Pro Leu Gly Ile Ser Ile Val Ser
  1               5                  10                  15

Gly Glu Lys Gly Gly Ile Tyr Val Ser Lys Val Thr Val Gly Ser Ile
             20                  25                  30

Ala His Gln Ala Gly Leu Glu Tyr Gly Asp Gln Leu Leu Glu Phe Asn
         35                  40                  45

Gly Ile Asn Leu Arg Ser Ala Thr Glu Gln Gln Ala Arg Leu Ile Ile
     50                  55                  60

Gly
 65
```

<210> 21
<211> 98
<212> PRT
<213> Drosophila melanogaster

<400> 21

```
Met Val Phe Ala Val Val Asp Lys Ala Gly Thr Val Val Met Ser Asp
  1               5                  10                  15

Gly Glu Glu Leu Asp Ser Trp Ser Val Leu Ile Asn Gly Ala Val Glu
             20                  25                  30

Ile Glu His Ala Asn Gly Ser Arg Glu Glu Leu Gln Met Gly Asp Ser
         35                  40                  45

Phe Gly Ile Leu Pro Thr Met Asp Lys Leu Tyr His Arg Gly Val Met
     50                  55                  60

Arg Thr Lys Cys Asp Asp Cys Gln Phe Val Cys Ile Thr Gln Thr Asp
 65                  70                  75                  80

Tyr Tyr Arg Ile Gln His Gln Gly Glu Glu Asn Thr Arg Arg His Glu
                 85                  90                  95

Asp Glu
```

<210> 22
<211> 99
<212> PRT
<213> Homo sapiens

<400> 22
Leu Leu Phe Glu Pro His Ser Lys Ala Gly Thr Val Leu Phe Ser Gln
1 5 10 15

Gly Asp Lys Gly Thr Ser Trp Tyr Ile Ile Trp Lys Gly Ser Val Asn
20 25 30

Val Val Thr His Gly Lys Gly Leu Val Thr Thr Leu His Glu Gly Asp
35 40 45

Asp Phe Gly Gln Leu Ala Leu Val Asn Asp Ala Pro Arg Ala Ala Thr
50 55 60

Ile Ile Leu Arg Glu Asp Asn Cys His Phe Leu Arg Val Asp Lys Gln
65 70 75 80

Asp Phe Asn Arg Ile Ile Lys Asp Val Glu Ala Lys Thr Met Arg Leu
85 90 95

Glu Glu His

<210> 23
<211> 97
<212> PRT
<213> Homo sapiens

<400> 23
Ala Met Phe Pro Val Thr His Ile Ala Gly Glu Thr Val Ile Gln Gln
1 5 10 15

Gly Asn Glu Gly Asp Asn Phe Tyr Val Val Asp Gln Gly Glu Val Asp
20 25 30

Val Tyr Val Asn Gly Glu Trp Val Thr Asn Ile Ser Glu Gly Gly Ser
35 40 45

Phe Gly Glu Leu Ala Leu Ile Tyr Gly Thr Pro Arg Ala Ala Thr Val
50 55 60

Lys Ala Lys Thr Asp Leu Lys Leu Trp Gly Ile Asp Arg Asp Ser Tyr
65 70 75 80

Arg Arg Ile Leu Met Gly Ser Thr Leu Arg Lys Arg Lys Met Tyr Glu
85 90 95

Glu

<210> 24
<211> 97
<212> PRT
<213> Homo sapiens

<400> 24
Cys Met Tyr Gly Arg Asn Tyr Gln Gln Gly Ser Tyr Ile Ile Lys Gln
1 5 10 15

Gly Glu Pro Gly Asn His Ile Phe Val Leu Ala Glu Gly Arg Leu Glu
20 25 30

Val Phe Gln Gly Glu Lys Leu Leu Ser Ser Ile Pro Met Trp Thr Thr
35 40 45

Phe Gly Glu Leu Ala Ile Leu Tyr Asn Cys Thr Arg Thr Ala Ser Val
50 55 60

Lys Ala Ile Thr Asn Val Lys Thr Trp Ala Leu Asp Arg Glu Val Phe
65 70 75 80

Gln Asn Ile Met Arg Arg Thr Ala Gln Ala Arg Asp Glu Gln Tyr Arg
85 90 95

Asn

<210> 25
<211> 103
<212> PRT
<213> Mus musculus

<400> 25
Arg Leu Arg Ser Val Val Tyr Leu Pro Asn Asp Tyr Val Cys Lys Lys
1 5 10 15

Gly Glu Ile Gly Arg Glu Met Tyr Ile Ile Gln Ala Gly Gln Val Gln
20 25 30

Val Leu Gly Gly Pro Asp Gly Lys Ser Val Leu Val Thr Leu Lys Ala
35 40 45

Gly Ser Val Phe Gly Glu Ile Ser Leu Leu Ala Val Gly Gly Gly Asn
50 55 60

Arg Arg Thr Ala Asn Val Val Ala His Gly Phe Thr Asn Leu Phe Ile
65 70 75 80

Leu Asp Lys Lys Asp Leu Asn Glu Ile Leu Val His Tyr Pro Glu Ser
85 90 95

Gln Lys Leu Leu Arg Lys Lys
100

<210> 26
<211> 91
<212> PRT
<213> Caenorhabditis elegans

<400> 26
Arg Glu Asp Phe Glu Ile Ile Arg Val Phe Asp Gly Asn Asn Ser Tyr
1 5 10 15

Arg Ser Gln Ile Ser Arg Asn Ile Val Val Ala Lys His Val Ser Val
20 25 30

Gln Gln Val Arg Asp Ala Ala Leu Arg Arg Phe His Ile Asn Asp Thr
35 40 45

Pro Glu Arg Tyr Tyr Ile Thr Gln Val Val Gly Glu Val Glu Glu Glu
50 55 60

Ile Leu Glu Asp Pro Val Pro Leu Arg Asn Val Lys Arg Pro Glu Gly
65 70 75 80

Lys Arg Ala Gln Ile Phe Ile Arg Tyr Tyr Asp
85 90

<210> 27
<211> 129
<212> PRT
<213> Homo sapiens

<400> 27
Ser Ile Leu Val Thr Ser Gln Asp Lys Ala Pro Ser Val Ile Ser Arg
1 5 10 15

Val Leu Lys Lys Asn Asn Arg Asp Ser Ala Val Ala Ser Glu Tyr Glu
20 25 30

Leu Val Gln Leu Leu Pro Gly Glu Arg Glu Leu Thr Ile Pro Ala Ser
35 40 45

Ala Asn Val Phe Tyr Ala Met Asp Gly Ala Ser His Asp Phe Leu Leu
50 55 60

Arg His Gly Glu Gly Pro Leu Leu Leu His Leu Ala Ser Pro Val Ala
65 70 75 80

Arg Leu Pro Gln Glu Leu Leu Arg Val Arg Glu Glu Gly Ala Pro Phe
85 90 95

Pro Gly Ser Arg Pro Gln Gly Gly Arg Leu His Gly His Cys Ser Glu
100 105 110

Glu Glu Ala Pro Leu Ala Tyr Arg Ser His Gly Val His Thr Arg Cys
115 120 125

Gly

<210> 28
<211> 149
<212> PRT
<213> Mus musculus

<400> 28
Gly Gly Lys Asp Val Ser Ala Glu Ala Glu Ser Ser Ser Met Val Pro
1 5 10 15

Val Thr Thr Glu Glu Ala Lys Pro Val Pro Met Pro Ala His Ile Ala
20 25 30

Val Thr Pro Ser Thr Thr Lys Gly Leu Ile Ala Arg Lys Glu Gly Arg
35 40 45

Tyr Arg Glu Pro Pro Pro Thr Pro Pro Gly Tyr Val Gly Ile Pro Ile
50 55 60

Ala Asp Phe Pro Glu Gly Pro Cys His Pro Ala Arg Lys Pro Pro Asp
65 70 75 80

Tyr Asn Val Ala Leu Gln Arg Ser Arg Met Val Ala Arg Pro Thr Glu
85 90 95

Ala Pro Ala Pro Gly Gln Thr Pro Pro Ala Ala Ala Ala Ser Arg Pro
100 105 110

Gly Ser Lys Pro Gln Trp His Lys Pro Ser Asp Ala Asp Pro Arg Leu
115 120 125

Ala Pro Phe Gln Ala Gly Phe Ala Gly Ala Glu Glu Asp Glu Asp Glu
130 135 140

Gln Val Ser Ala Val
145